EDITORIAL

Climate Change, Tipping Points, and Partly Full Glasses

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January 31, 2008, promises to be a momentous day for moving the United States towards a serious embrace with climate change. Focus the Nation, a non-profit organization, organized "teach-ins" around the country, and a multitude of universities, colleges, churches, and other groups participated.

Each group, in their own respective local community, brought together speakers and programs to address the science, the consequences, and the solutions to the most challenging problem modern civilization has ever faced: *Can people around the world find a way to preserve a modern, energy-rich lifestyle without altering the climate so profoundly that we no longer receive the life-giving resources of water and temperature conditions upon which we depend?*

A map on the Focus the Nation Web site indicates that the response encompassed the entire nation (Figure 1). Each pin represents an organization planning an event for January 31. On the same Web site, one can also find a growing collection of newspaper and radio stories about the teach-in day.[1]

The National Association of Environmental Professionals (NAEP), too, is making serious efforts to educate its members and the public about climate change. This journal salutes, for example, the planning committee of the NAEP–California AEP annual conference for arranging an all-day symposium on global warming for Tuesday, March 25, 2008, in San Diego. Similarly, we commend the efforts of Harold Draper and Ed Bowers, who are arranging for a climate change topic at the Midwest Chapter meeting of the NAEP in February.

Interestingly, this nationwide educational effort has not—so far as I can determine—brought forth the howls of "junk science" that so often accompanied mention of climate change as little as two years ago. Indeed, scientists publishing in peer-reviewed journals have for many years been in agreement that climate change is real and serious. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change issued in 2007 made it abundantly clear that the scientific community has consensus on the matter.

Figure 1. Pins denote locations of organizations participating in Focus the Nation (Source: http://www.focusthenation.org/mediaroom.php).

Similarly, in December 2007, the Council of the American Geophysical Union (representing 50,000 members) revised and reaffirmed their 2003 statement, and it now includes this chilling statement (although perhaps we need a new metaphorical word when discussing global warming!):

> In the next 50 years, even the lower limit of impending climate change—an additional global mean warming of 1°C above the last decade—is far beyond the range of climate variability experienced during the past thousand years and poses global problems in planning for and adapting to it. Warming greater than 2°C above 19th century levels is projected to be disruptive, reducing global agricultural productivity, causing widespread loss of biodiversity, and—if sustained over centuries—melting much of the Greenland ice sheet with ensuing rise in sea level of several meters. If this 2° warming is to be avoided, then our net annual emissions of CO_2 must be reduced by more than 50 percent within this century.[2]

In response to the overwhelming consensus of the scientific community, the debate about climate change may have moved to a new and subtler plane. Rather than denigrate climate scientists by charging them with fraud and hoaxes, those who are skeptical of the science or who don't want to upset existing economic and political arrangements may be building a new tactic.

Instead of denial or ridicule, the new barriers to concerted action may be to claim that the (skeptical) organization is fully on board with moving ahead and has been doing important things for years. A closer look, however, may indicate that the words are present but meaningful action elusive.

I was led to this regrettably pessimistic conclusion by trying to assess activities around the teach-in of January 31st. After finding many stories in major dailies and local papers, I decided to look at coverage in the

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Wall Street Journal. To my surprise, disappointment, and puzzlement, I found that the *Journal* had no coverage of the Focus the Nation events.

But how, I asked, could this be? Surely business leaders, the main audience of the *Journal*, need to know about things that affect the business climate. And climate change certainly alters how businesses in the future will prosper, or not. How could the *Journal* ignore a nationwide movement that is likely to lead to a carbon tax or a carbon cap-and-trade reduction policy?

In my perusal of the mighty *Journal*'s pages, however, I came upon a column by the head of the President's Council on Environmental Quality and the Deputy National Security Advisor for International Economic Affairs.[3] Coming away from this opinion and information column, one has the impression that the Bush administration has been front and center on climate change since they took office in 2001.

I'm sure ardent supporters of the Bush administration will disagree, but please forgive me if I say the impression left by the column is, at best, a stretch. A more careful reading of the Administration's game plan—from the release of the Cheney energy report in May 2001 to the UN conference in Bali in December 2007—suggests denial, ignoring, and dispute were the operative strategies on avoiding regulation of carbon emissions.

To carry this analysis just a bit further, I followed one statement in the column: "Lowering the cost of emissions reductions requires speeding up the development and deployment of technologies that will . . . capture and stor[e] . . . carbon emitted from coal-power plants." The reference seems to be to FutureGen, an initiative of the Administration to build a zero-emissions coal-fired generating plant.

FutureGen, launched to great (and deserved) fanfare in 2003, was a private-public partnership that would build a plant that could gasify coal and capture all noxious emissions, including CO_2. Sometime between December 2007 and January 2008, the Department of Energy lost faith in the path it had carved for building what would have been a state-of-the-art power plant using coal, the most climate-offensive of the fossil fuels but a fuel of which the US has a great deal.

In short, the plug was pulled on FutureGen, and the Department of Energy announced a complete restructuring of the effort. Now instead of building the plant already in process, the Department wants to start over, and the delay may be for years. In its new efforts, it will seek to add carbon capture and storage (CCS) technology to plants that utilities will build along conventional lines.

The Department claims that costs of FutureGen were rising fast, the promised plant was too small, new technology made adding CCS more feasible, and that in the long run the tax funds going into CCS ventures would be better spent.[4] The FutureGen Alliance (builders of the proposed plant) and political leaders have cried out in anguish about the sudden shifting of gears.[5]

At the moment, the future of FutureGen is in the political arena. Maybe Congress will make the Department of Energy reconsider, maybe not. What is so ironic about these events, however, is the timing.

The *Wall Street Journal* column from the Administration appeared just days before the Focus the Nation events. It claimed great progress on climate change and emphasized the importance of speeding up CCS in coal-fired plants. Four days later, and one day before Focus the Nation, the Department of Energy pulled out of FutureGen, which was the key program for coal.

Maybe the Administration has defensible and rational arguments supporting the actions taken. At this point, however, the situation looks quite different. It looks like lots of words, some of which make sense, but precious little in the way of effective action. When added to the Administration's continuing reluctance to even speak about mandatory rules on carbon emissions, the strategy emerges from the fog of words: talk a good line but don't do anything.

In the meantime, the science is clear: the models say we have little time for effective action. Otherwise the consequences are likely to be quite unpleasant. Industrialized countries like the US live in a culture that is premised on the use of science. Why would any government deny science when consensus is so high? To overuse clichéd metaphors, we need to tip into full action and fill the glass with effective programs, not words that obscure while accomplishing nothing.

Notes

1. Focus the Nation, Media Room, 2008, available at http://www.focusthenation.org/mediaroom.php, accessed February 4, 2008.
2. American Geophysical Union Council, 2007, "Human Impacts on Climate," available at http://www.agu.org/sci_soc/policy/positions/climate_change2008.shtml, accessed February 4, 2008.
3. J. L. Connaghton and D. M. Price, 2008, "The Bush Plan for Climate Change," *Wall Street Journal* (Eastern edition), January 26, p. A10.
4. US Department of Energy, 2008, "DOE Announces Restructured FutureGen Approach to Demonstrate Carbon Capture and Storage Technology at Multiple Clean Coal Plants," available at http://www.fossil.energy.gov/news/techlines/2008/08003-DOE_Announces_Restructured_FutureG.html, accessed February 4, 2008.
5. M. L. Wald, 2008, "Higher Costs Cited as US Shuts Down Coal Project," *The New York Times*, January 31, available at http://www.nytimes.com/2008/01/31/business/31coal.html?_r=2&oref=slogin&oref=slogin, accessed February 4, 2008.

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